

AUSA ILW

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BREAKFAST

*Transforming
LandWarNet to
an Enterprise for
the Warfighter*



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AMERICA'S ARMY: THE STRENGTH OF THE NATION
ARMY STRONG



Agenda



- ④ **Then & Now**
- ④ **CONUS-Based & Expeditionary**
- ④ **Transforming Army LandWarNet**
 - Army Enterprise Architecture
 - CSA “Unity of Effort” Tasking
 - “Big 4” & Lines of Effort
- ④ **Conclusions**





Then & Now



Transmission Speeds...

1860: 3 words/minute (via Wig-Wags)



Major Albert J Myer
1st Chief of Signal

**2010: Bell Labs multiplexed 155 channels,
each of 100 Gbps over a single
strand of fiber = 15.5 Tbps total**





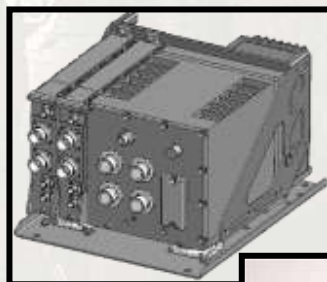
Then & Now



Tactical Radios...

2000: 11 different types ~365,000 total

2010: 20 different types – 919,052 total



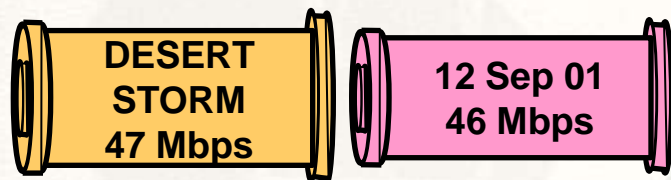


Then & Now



CENTCOM Bandwidth...

Desert Shield/Desert Storm & prior to OEF:



~50X Increase from 12 Sep 01

ENDURING FREEDOM & IRAQI FREEDOM (March 2003) 2.3 Gbps Combined

~4X Increase from March 03

CURRENT OEF & OIF Estimates (APR '10) ~9.6 Gbps Combined

OEF/OIF & Today:



Then & Now

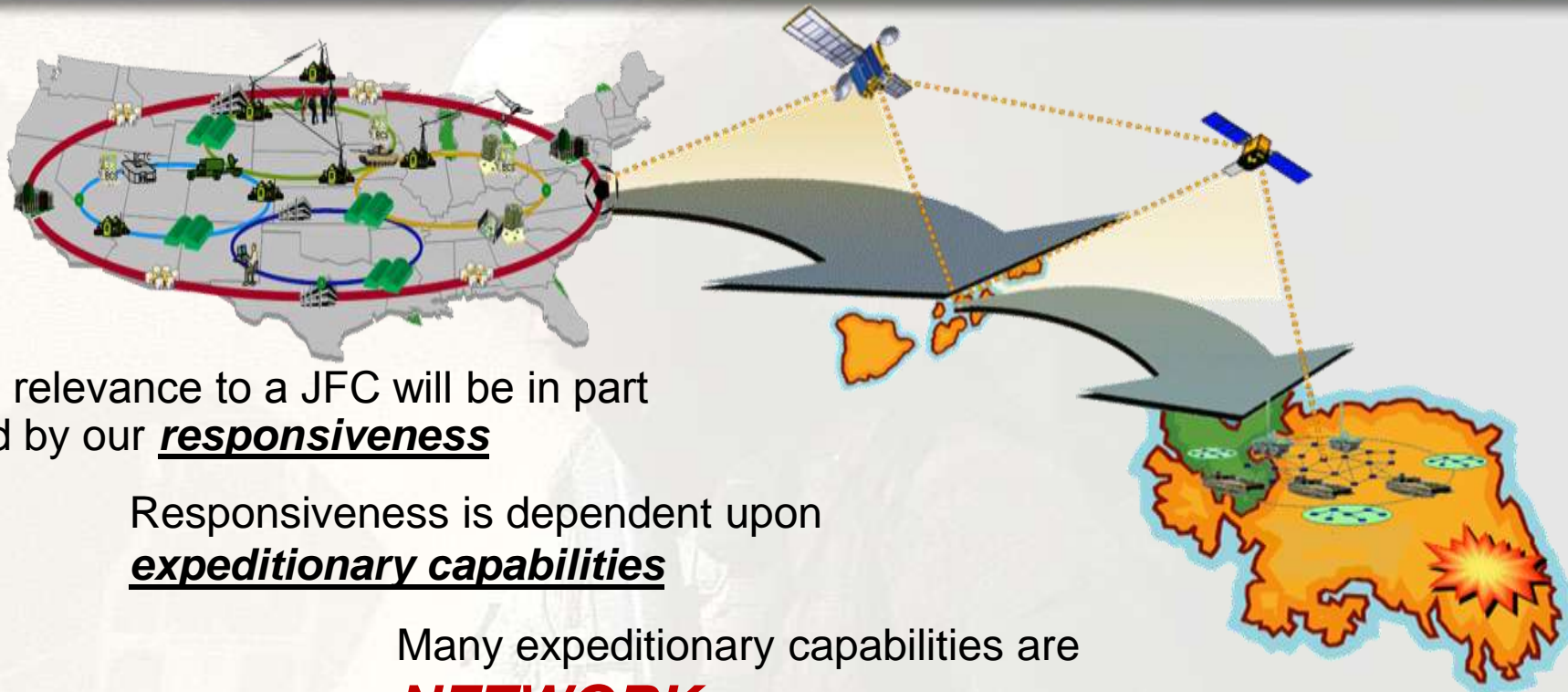


Internet...

	2000	2010
# URLs	130 Million	<u>1 Trillion</u>
# Tweets	0	<u>9.7 Billion</u>
# Blogs	What's a Blog?	<u>>133 Million</u>



CONUS Based & Expeditionary



Army's relevance to a JFC will be in part defined by our **responsiveness**

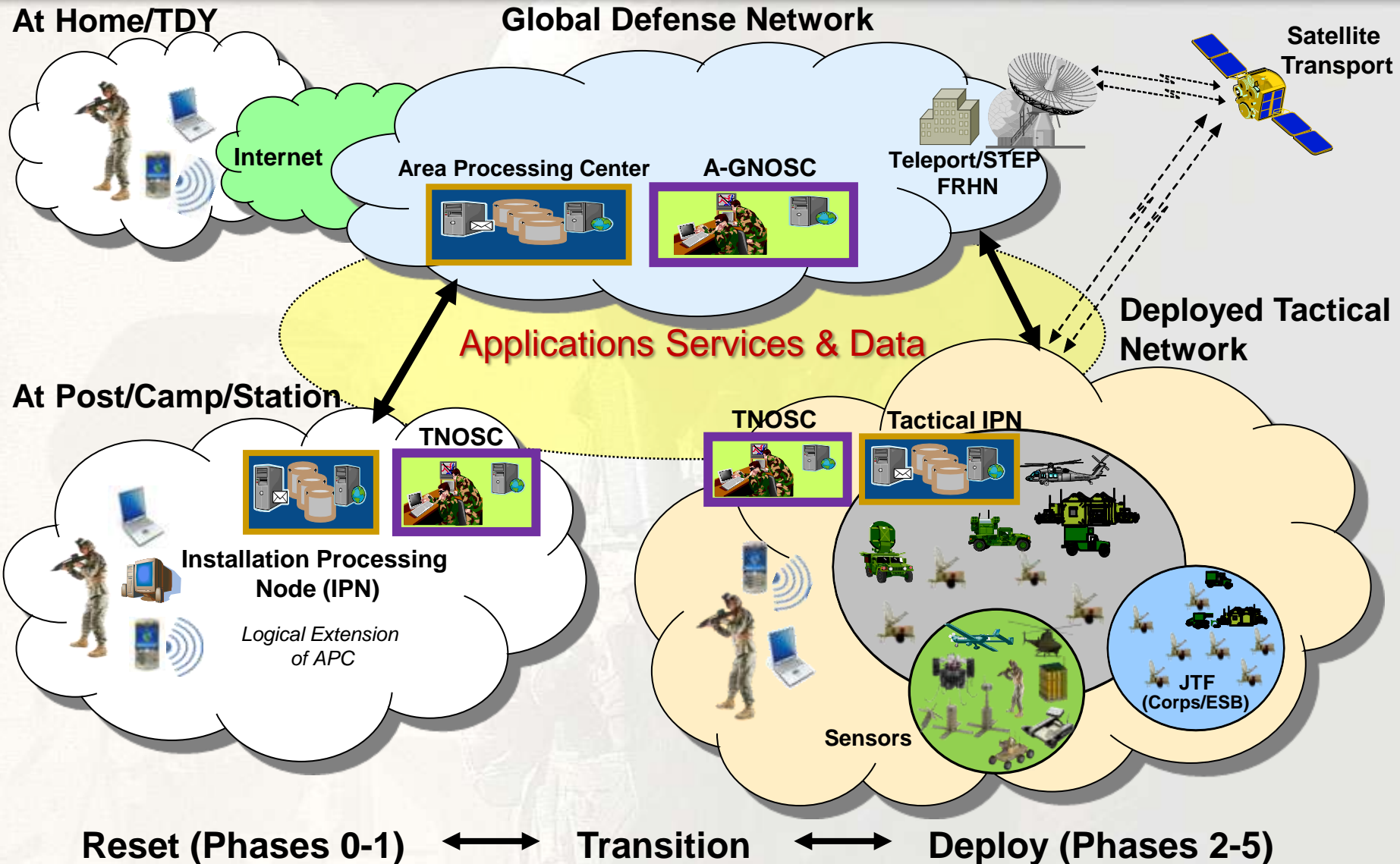
Responsiveness is dependent upon **expeditionary capabilities**

Many expeditionary capabilities are **NETWORK** dependent

“We’re building an Army that is a versatile mix of *tailorable* and *networked* organizations operating on a *rotational basis* ... to provide a *sustained flow* of trained and ready forces for *full spectrum operations* ... and to hedge against *unexpected contingencies* ... at a tempo that is predictable and sustainable for our *all-volunteer force*.” – Chief of Staff Army, 6 Apr 2010



Army Enterprise Architecture



Reset (Phases 0-1) ↔ Transition ↔ Deploy (Phases 2-5)

Always Accessible by the Soldier

• UNITY OF EFFORT

① "BIG 5" OF 21st Cent

② WHAT TRYING TO ACCOMP W/
NETWORK? CONCEPT OF BC/EMPOWER
LEADS

- LOWER EXPECTATIONS

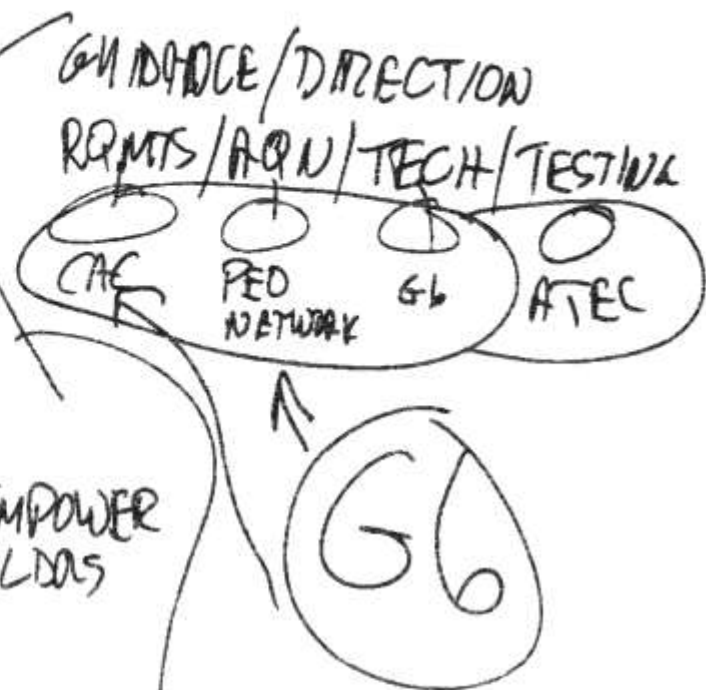
- "TO CREATE CONTEXT"

- SIMULATIONS FOR TESTING / NETWORK + BC APPS

- FLEXIBLE / ITERATIVE

- BASELINE ASSESSMENT

- CYBER





Transforming Our Army & Our Signal Regiment

Supporting Efforts to Attack the Processes that Slow C4/IT Innovation





Proving the Concept: OPVAL-II



Demonstrate Operational Capabilities

- **Early Collaboration.** Maintain continuous access to data resources across space & time utilizing a single, persistent tactical identity
- **Fight Upon Arrival.** Rapidly deploy to an austere environment, fight upon arrival, seize & maintain the initiative without loss of operational tempo or situational awareness
- **Enterprise Battle Command.** Command & control widely-dispersed forces through NSC-provisioned warfighting services



75th Fires Brigade

- *Deploy a BCT-sized unit leveraging the range of global network enterprise capabilities through all phases of its deployment in FY11*
- *Deploy all BCT-sized units relying on the range of global network enterprise capabilities through all operational phases NLT FY12*

– GEN George Casey, Chief of Staff Army



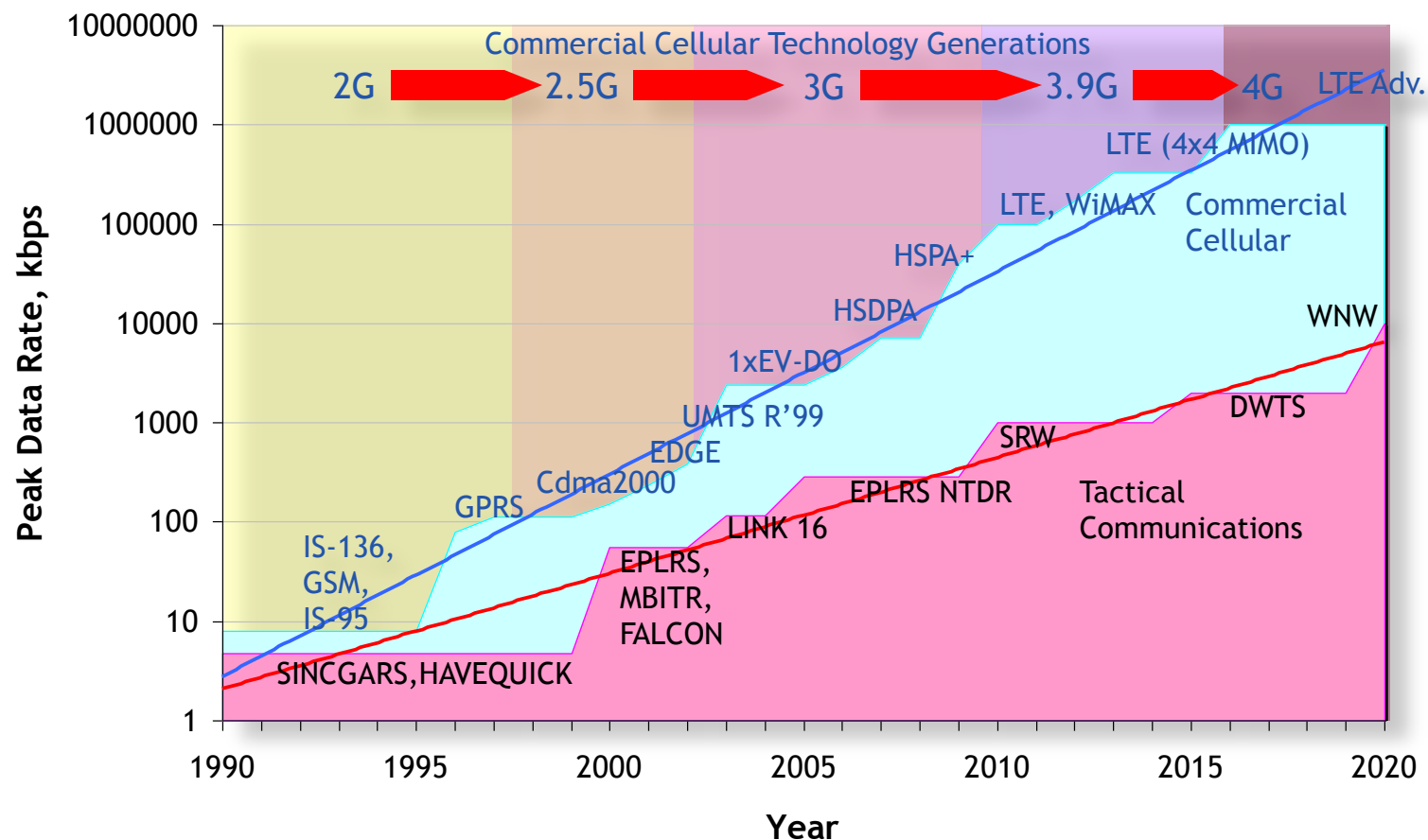
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CSA Tasker – Unify the Network



Commercial Cellular & Tactical Communications Data Rate Evolution



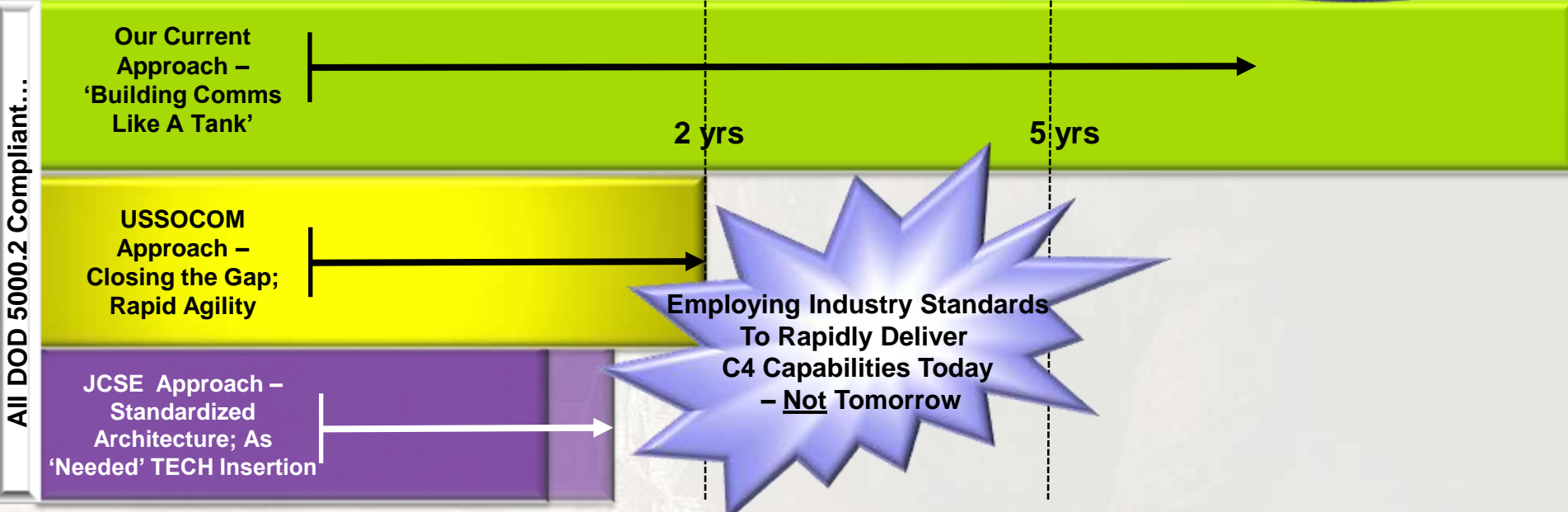
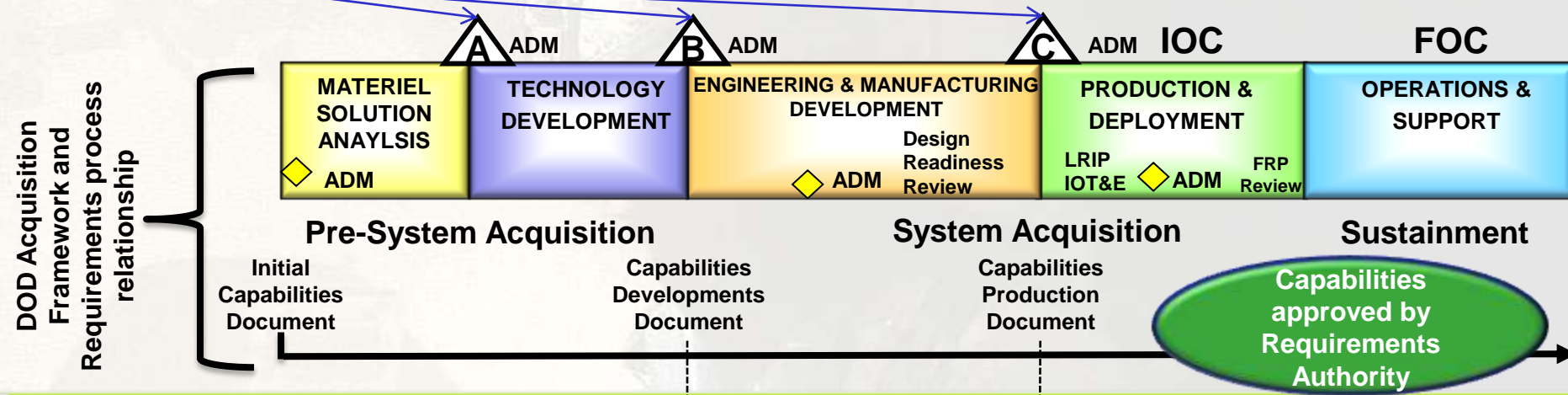
The Commercial Marketplace is Driving Innovation at an Accelerated Pace vs. the DoD market – DoD should Leverage this Innovation More Effectively



Evaluating Other Processes to Close the Capability 'Gap'

Leveraging Industry Standards ... Remaining DOD 5000.2 Compliant

JCIDS: User needs & Technology Opportunities





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The Problem



Army (System Focus)



Industry (Applications Focus)



Launch Date: Jul 11, 2008
Available Applications: 150,998
Downloads: 3,000,000,000



Launch Date: Oct 22, 2008
Available Applications: 16,000
Downloads: 400,000,000

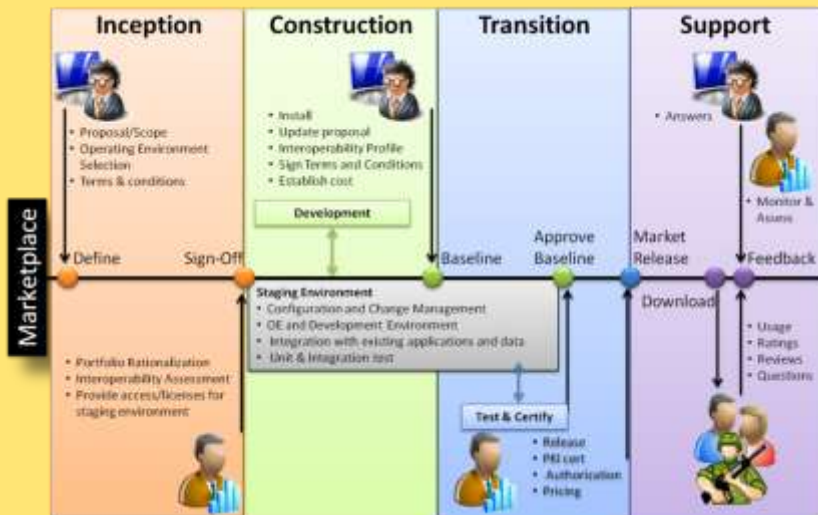
Radical Change Is Needed – Architecture Must Separate Data & Apps



Employ Industry Best Practices



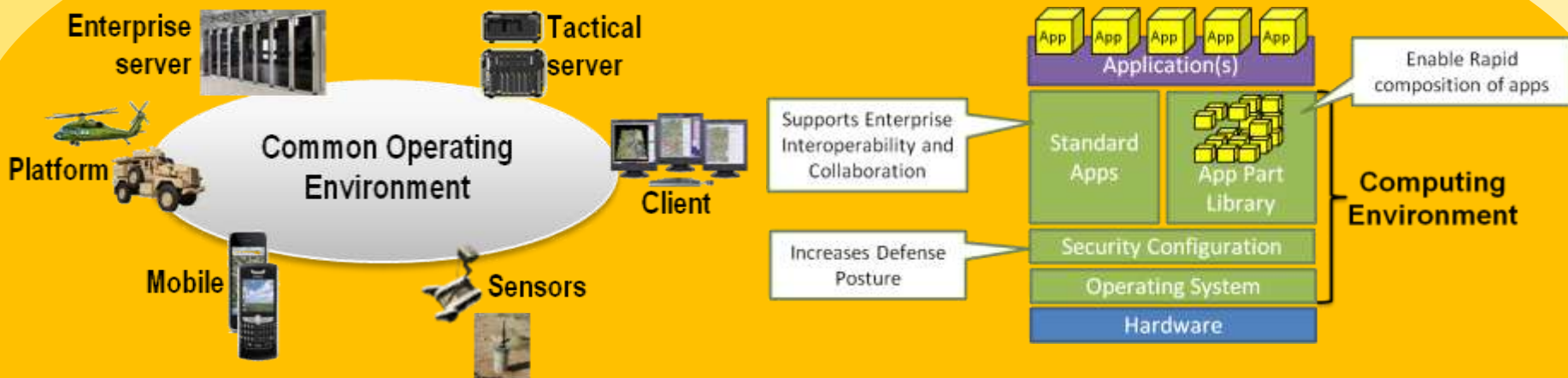
Streamlined Processes



Application Marketplace



Common Operating Environment





On-Going Pilots



What We Have Done



**Common
Operating
Environment
Architecture**

***Driving the Future of
Battle Command***

By RACE Environment



By App Category



What We are Doing



Pilots:



***Soldier Fitness
Mobile App***



***Tactical Server COE
and development
tools***



***Army Intel System
Interoperability
Testing & Certification***



Where is the \$\$

***Preparing the
Enterprise
for Change***



A4A – Example Apps



Disaster Relief Operations (Mission Specific)

- Web-based data survey, dissemination & analysis tool for searching, editing & creating maps viewable on Google Earth & Google Map



New Recruit App (Information Access)

- Information for potential recruits to explore their options in the Army



Movement Projection (Location Aware)

- Allows the user to enter start/end points AND enter obstacles/barriers, application then calculates the best route



Physical Readiness Trainer (Training)

- Used by the soldier to develop their own Physical Training program based upon TC 3-22.20



Physiological Health Assessment (MWR/Other)

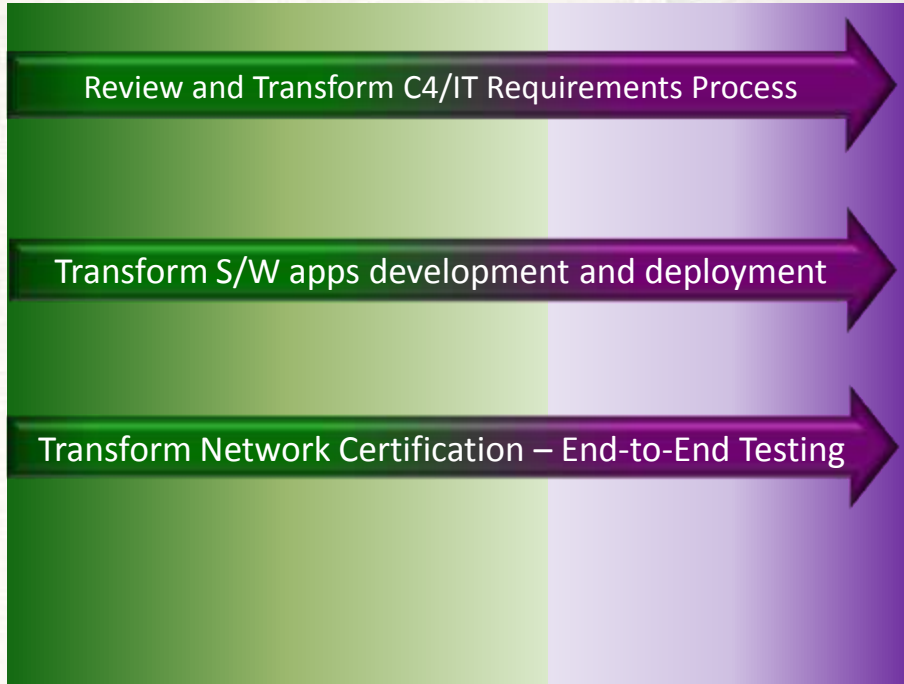
- Enables health care professionals a handy tool for inputting soldier information in order to determine their mental health



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CSA Tasker – Unify the Network

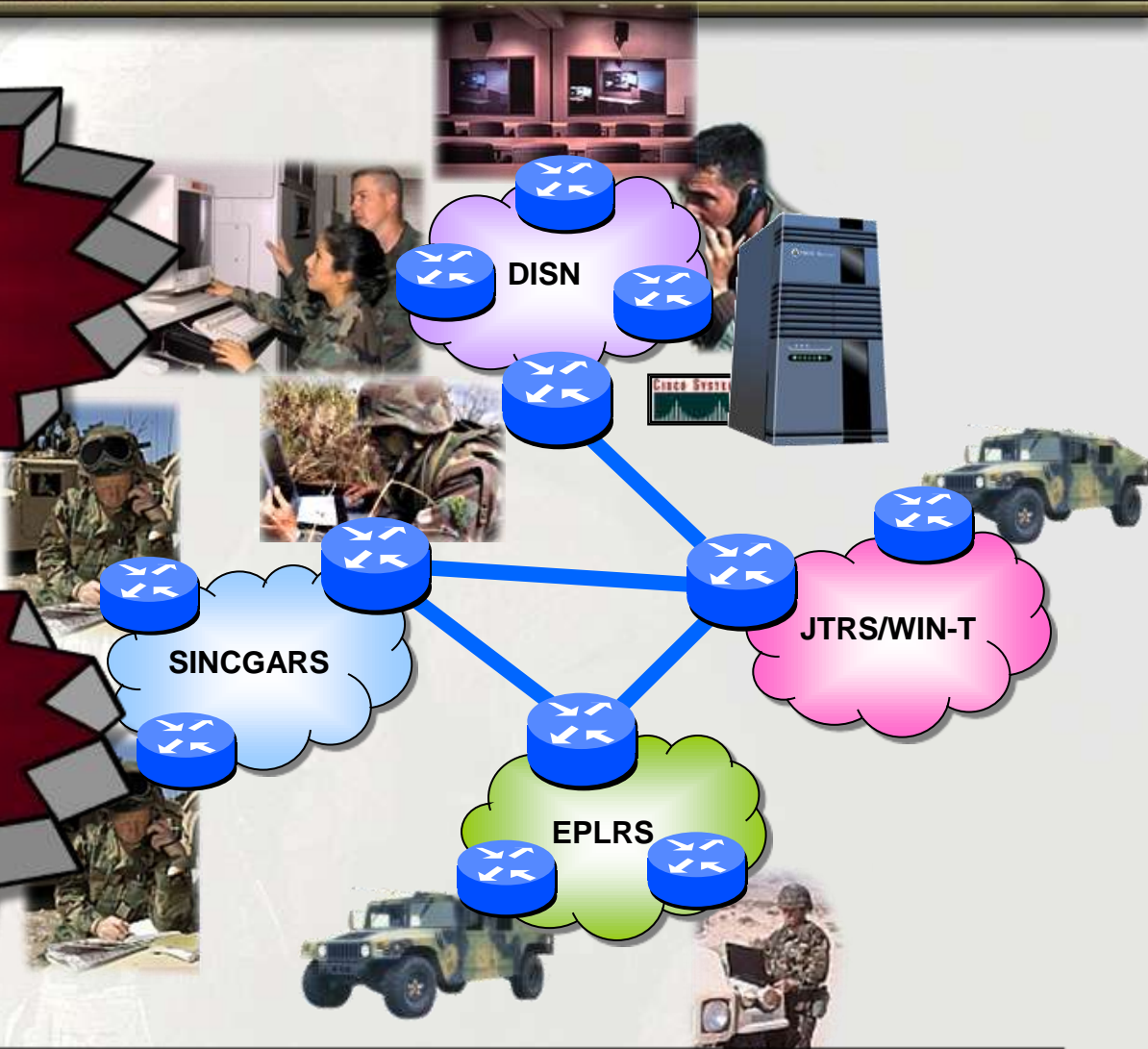




Moving to “Everything Over IP” (EoIP)

IP routers
connect
dissimilar
networks...

...end-to-end
interoperability



Internet Protocol networking provides a *seamless convergence layer* for all applications and networks ... and Sensors, Fire & Maneuver



Establishing Enterprise 'To Be' Architecture



What We Have Done



- **Tactical Network Architecture**
- **Common Operating Environment Architecture (Draft)**
- **Area Processing Center Architecture**
- **"To-Be" Architecture available at:**
<http://ciog6.army.mil/ToBeArchitecture.aspx>

What We are Doing



- **Common Operating Environment Architecture (Final)**
- **Installation (Post/Camp/Station) Architecture**
- **Information Assurance Architecture**
- **Geo-spatial Architecture**

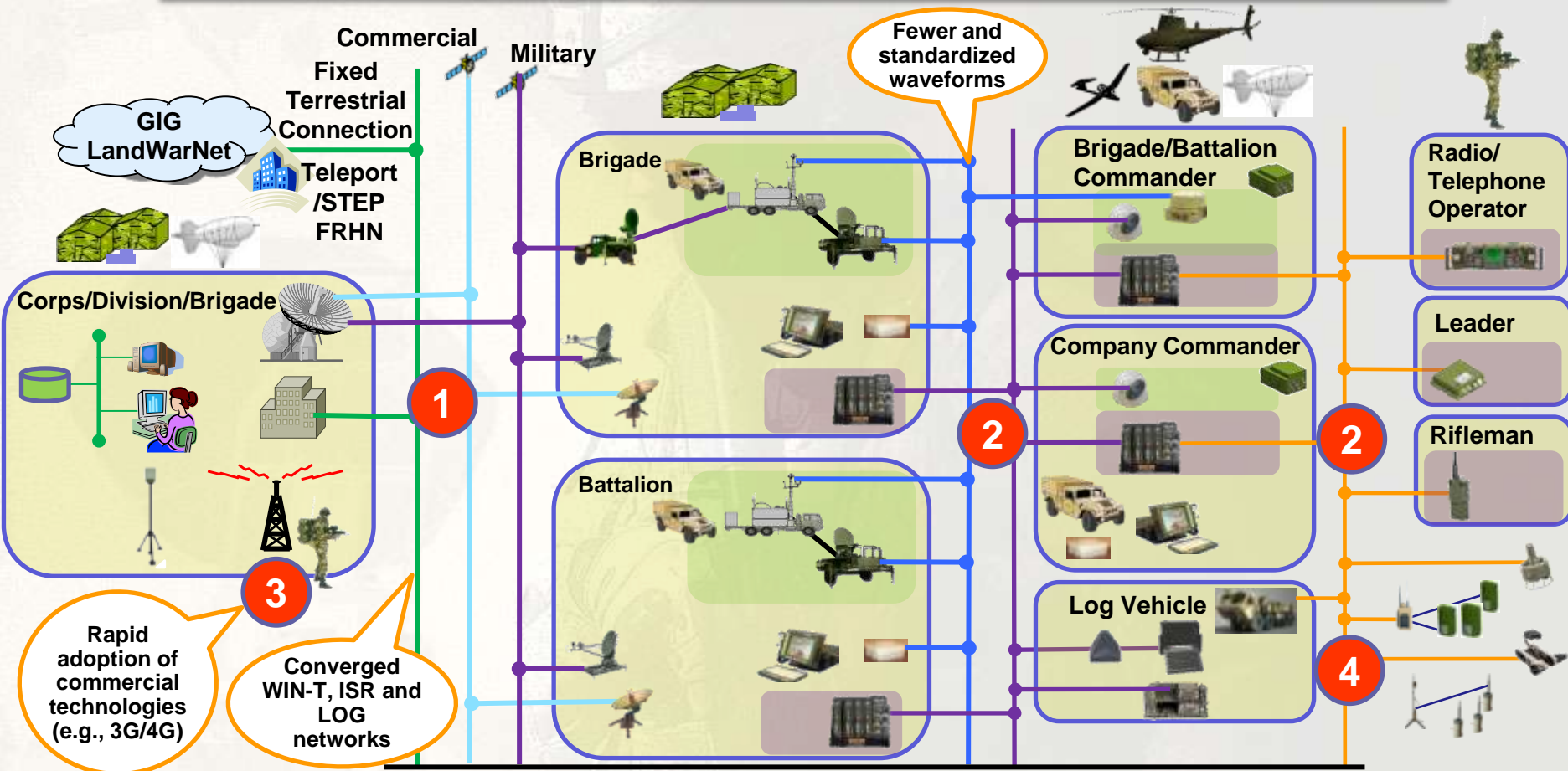
Directs Army Network Enterprise Alignment for POM 13-17



'To Be' Network Architecture



All systems riding a common, interoperable EoIP Backbone establishing a 'plug & play' environment



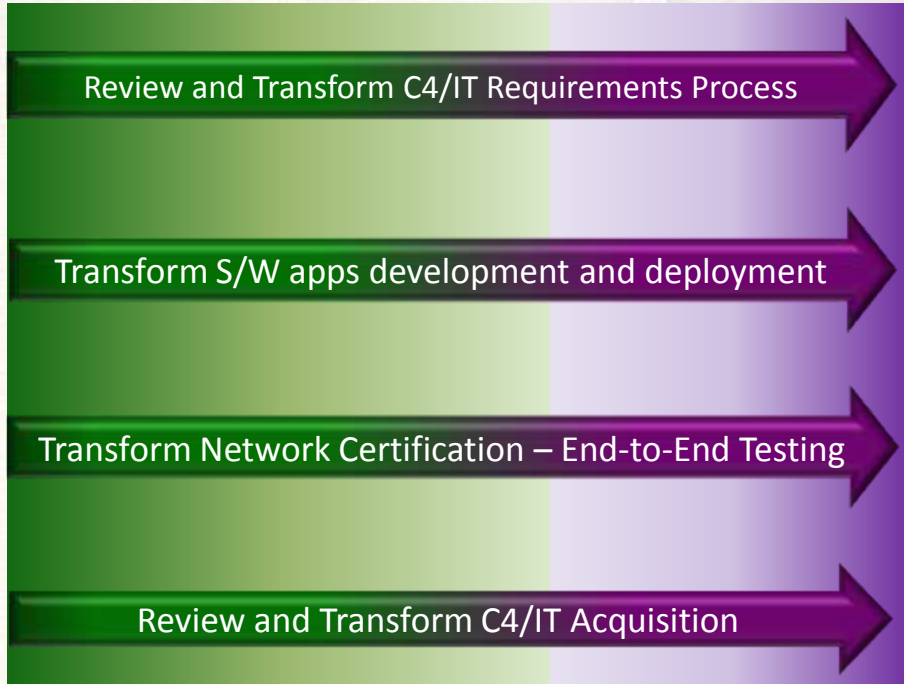
Numbers represent Common Operating Environment Control Points for Interoperability, Information Assurance and Gateways



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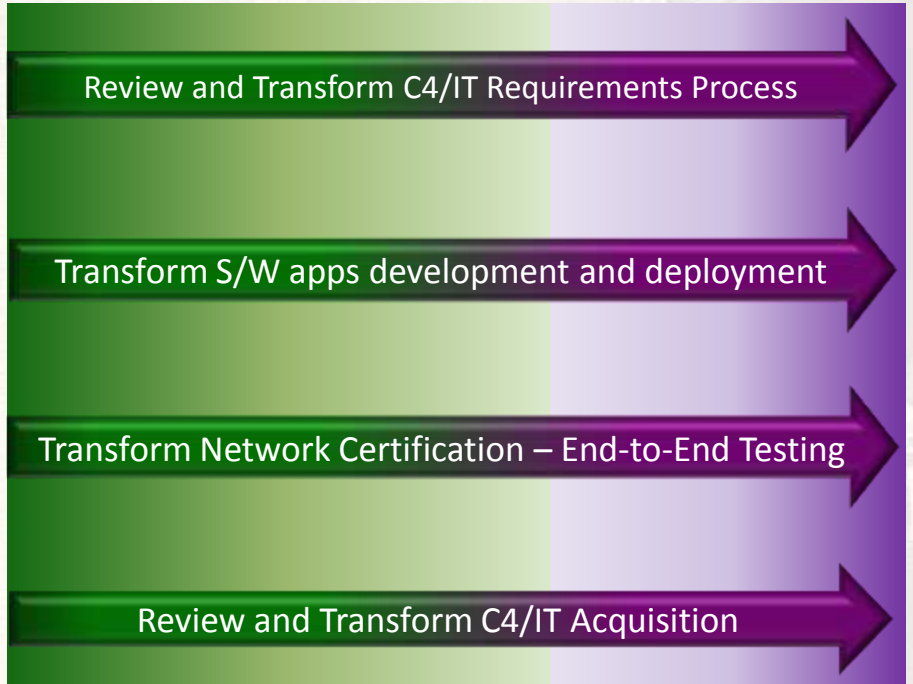
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VCSA Memo

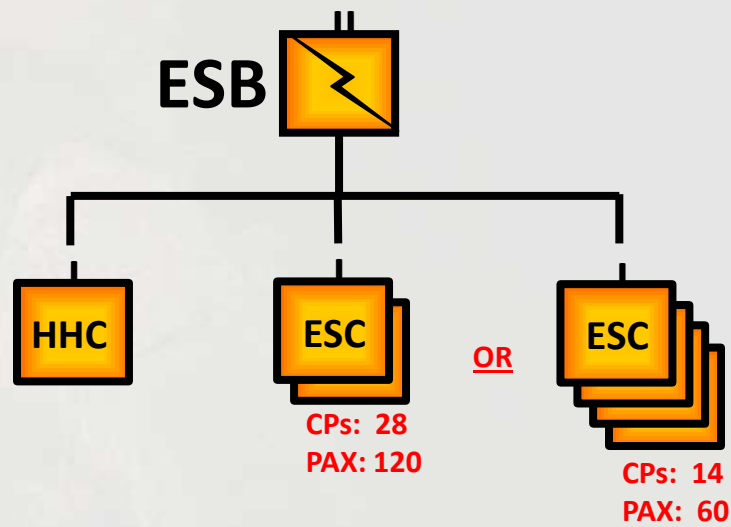
Establish Governance Over The Deployment of the Network

CSA Tasker – Unify the Network



'End State' Architecture to Guide Investment

Our End State
Influence POM 13-17....



...and Re-Balance Signal Forces thru the FAA



Conclusions



④ Army CONUS-Based Strategy
...transforming to an Expeditionary Army



④ Army Enterprise Architecture
...connect Users with Apps & Data at all locations

④ Unity of Effort – Warfighter Support
...transforming Our Army & the Signal Regiment

④ Shared Situational Awareness
*...**Bottom Line** for the Joint Warfighter*





Celebrating 150 Years of Signal Corps Support to the Warfighter



ARMY STRONG!



QUESTIONS + THOUGHTS



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